REMARKS

Claims 1 through 4, 6 and 7 are pending in this application. Claims 1, 4 and 7 have been amended. Care has been exercised to avoid the introduction of new matter. Indeed, adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, Fig. 8 and the related discussion in the written description of the specification. The amendment to claim 7 comes at the courteous suggest of the Examiner. Applicants submit that the present Amendment does not generate any new matter issue.

A clean copy of amended claims 1, 4 and 7 appears in the Appendix thereto.

Acknowledgement of the IDS

Applicants appreciate the Examiner's acknowledgement of the Information Disclosure Statement. However, Applicants would respectfully request the Examiner to clarify the record by providing an appropriately initialed copy of Form PTO-1449 indicating consideration of the cited prior art, as no such initialed copy of Form PTO-1449 was supplied with the October 4, 2002 Office Action.

Objection to the Specification

In the third enumerated paragraph on page 2 of the October 4, 2002 Office Action, the Examiner objected to the specification asserting a lack of antecedent basis for forming the plurality of trenches in the active region.

In response, claim 7 has been amended at the courteous suggestion of the Examiner to recite that the plurality of trenches are formed in the semiconductor substrate. Accordingly, withdrawal of the objection to the specification is solicited.

Claim Objection

The Examiner objected to claim 7 based upon a perceived lack of antecedent basis, referring to the objection to the specification. This objection is traversed.

As previously mentioned, claim 7 has been amended consistent with the Examiner's suggestion, thereby overcoming the stated basis for the claim objection. Accordingly, withdrawal of the objection to claim 7 is solicited.

Claim 4 was rejected under 35 U.S.C. §102 for lack of novelty as evidenced by Bracchitta et al.

In the statement of the rejection, the Examiner asserted that Bracchitta et al. disclose a semiconductor device identically corresponding to that claimed, referring to Fig. 4 and identifying, inter alia, surface insulating film 42. This rejection is traversed.

The factual determination of lack of novelty under 35 U.S.C. §102 requires the identical disclosure in a single reference of each element of a claimed invention, such that the identically claimed invention is placed into the recognized possession of one having ordinary skill in the art. *Crown Operations International Ltd. v. Solutia Inc. 289 F.2d 1367, 62 USPQ2d 1917 (Fed. Cir. 2002); Helifix Ltd. v. Blok-Lok, Ltd. 208 F.3d 1339, 54 USPQ2d 1299 (Fed. Cir. 2000); Electro Medical Systems S.A. v. Cooper Life Sciences, Inc., 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994).* There is a significant

difference between the semiconductor device defined in claim 4, particularly as now amended, and the semiconductor device disclosed by Bracchitta et al. that scotches the factual determination that Bracchitta et al. identically describe the claimed invention within the meaning of 35 U.S.C. §102.

Specifically, the semiconductor device defined in claim 4 comprises, inter alia, a trench having an interior surface defined by side surfaces and a bottom surface, and a surface insulating film formed on the surface of the semiconductor substrate and along the side surfaces and bottom surface lining the interior surface of the trench. No such surface insulating film is disclosed or suggested by Bracchitta et al. Indeed, it should be apparent that the film 42 identified by the Examiner does not line the interior surface of the trench, including the side surfaces and bottom surface. Rather, the film 42 merely covers the corner portion of the trench and a fraction of the side surface.

The above argued structural difference between the claimed invention and the semiconductor device disclosed by Bracchitta et al. undermines the factual determination that Bracchitta et al. identically describe the claimed invention within the meaning of 35 U.S.C. §102. *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics Inc., 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986).* Applicants, therefore, submit that the imposed rejection of claim 4 under 35 U.S.C. §102 for lack of novelty is evidenced by Bracchitta et al. is not factually viable and, hence, solicit withdrawal thereof.

Claims 1 through 3 and 6 were rejected under 35 U.S.C.§103 for obviousness predicated upon Bracchitta et al.

In the statement of the rejection, the Examiner again referred to Fig. 4 of Bracchitta et al. identifying, inter alia, surface insulating film 42 perceived to correspond to the surface insulating film of the claimed invention. This rejection is traversed.

There are significant structural differences between the claimed semiconductor device and the semiconductor device disclosed by Bracchitta et al. that undermine the obviousness conclusion under 35 U.S.C. §103. Specifically, the semiconductor device defined in each of independent claims 1 and 4 (claim 6 depending from claim 4) comprises a trench having an interior surface defined by side surfaces and a bottom surface, and a surface insulating film formed along the side surfaces and bottom surface lining the interior surface of the trench. This feature is neither disclosed nor suggested by Bracchitta et al. Indeed, as previously argued, insulating film 42 identified by the Examiner and asserted to correspond to the insulating film of the claimed invention does not line the interior surface of any trench, but is merely formed at the corners and a fraction of the side surfaces. Further, there is no apparent factual basis of record upon which to predicate the conclusion that one having ordinary skill in the art would somehow have been realistically impelled to dramatically deviate from the teachings of Bracchitta et al. to arrive at the claimed invention absent, of course, improperly reliance upon Applicants' disclosure. *Panduit Corp. v. Dennison Mfg. Co., 774 F.2d 1082, 227 USPQ 337 (Fed. Cir. 1985).*

Applicants, therefore, submit that the imposed rejection of claims 1 through 3 and 6 under 35 U.S.C. §103 for obviousness predicated upon Bracchitta et al. is not factually or legally viable and, hence, solicit withdrawal thereof.

It should, therefore, be apparent that the imposed objections and rejections have been overcome and that all pending claims are in condition for immediate allowance. Favorable consideration is, therefore, respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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APPENDIX

Claims 1, 4 and 7 now reads as follows.

1. (Twice Amended) A semiconductor device comprising:

a semiconductor substrate;

a first portion comprising a plurality of active regions formed in the semiconductor substrate;

a plurality of isolation regions separating the active regions from each other;

a second portion comprising at least one trench having an interior surface formed by side surfaces and a bottom surface;

a surface insulating film formed on a surface of the active regions in the first portion and on the side surfaces and bottom surface lining the interior surface of said at least one trench in the second portion; and

a conductive film formed on the surface insulating film, wherein the surface insulating film is sufficiently thin to function as an electric fuse.

4. (Twice Amended) A semiconductor device comprising:

a semiconductor substrate;

at least a trench, having an interior surface formed by side surfaces and a bottom surface, formed in the semiconductor substrate;

a surface insulating film formed along the side surfaces and bottom surface lining the interior surface of the trench and the semiconductor substrate; and

a conductive film formed on the surface insulating film;

C2 cont'd

wherein the surface insulating film is sufficiently thin to be broken down for forming an electric fuse.

C3

7. (Amended) The semiconductor device according to claim 6, wherein a plurality of trenches are formed adjacently in the semiconductor substrate, an etching stopper film is embedded in a selected one of the trenches, and a surface insulating film and a conductive film are formed in other trenches.